

WHAT IS CLAIMED IS:

1. A polymerizable composition comprising:

(A) a compound including a polymerizable unsaturated group; and

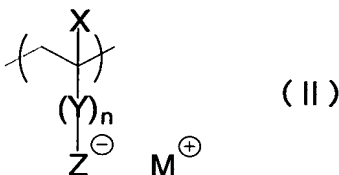
(B) a macromolecular compound including, at a side chain thereof, a structure represented by the following general formula (I):

General formula (I)



wherein  $Z^-$  represents  $COCOO^-$ ,  $COO^-$ ,  $SO_3^-$  or  $SO_2-N^--R$  where  $R$  represents a monovalent organic group and  $M^+$  represents an onium cation.

2. A polymerizable composition according to claim 1, wherein the (B) macromolecular compound including, at a side chain thereof, the structure represented by general formula (I) has a structural unit represented by the following general formula (II):



wherein  $X$  represents a hydrogen atom, a monovalent organic group, a hydroxyl group, a urethane group, a urea group, a halogen atom, an amino group, an amide group, a sulfonyl group or a sulfonate group,  $Y$  represents a divalent organic connecting

group, n denotes 0 or 1, Z<sup>-</sup> represents COCOO<sup>-</sup>, COO<sup>-</sup>, SO<sub>3</sub><sup>-</sup> or SO<sub>2</sub>-N<sup>-</sup>-R where R represents a monovalent organic group and M<sup>+</sup> is an onium cation.

3. A polymerizable composition according to claim 1, wherein the macromolecular compound (B) comprises a compound for generating radicals by the action of light or heat and has a weight average molecular weight (Mw) of at least 1,000 and no more than 100,000.

4. A polymerizable composition according to claim 1, wherein Z<sup>-</sup> of the macromolecular compound (B) represents COCOO<sup>-</sup>.

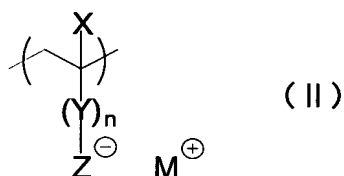
5. A polymerizable composition according to claim 1, wherein M<sup>+</sup> of the macromolecular compound (B) is selected from sulfonium, iodonium, diazonium and azinium.

6. A polymerizable composition according to claim 1, wherein the amount of the component (B) in the polymerizable composition is in a range of 0.5 to 50% by mass as a solid.

7. A polymerizable composition according to any of claims 1 to 6, further comprising (C) a compound having a maximum absorption wavelength at 700 to 1200 nm.

8. A planographic printing plate precursor comprising:  
 a support; and  
 a recording layer disposed on the support,  
 wherein the recording layer includes the polymerizable  
 composition of any of claims 1 to 7.

9. A planographic printing plate precursor comprising:  
 a support; and  
 a recording layer disposed on the support;  
 wherein the recording layer includes a polymerizable  
 composition comprising:  
 (A) a compound including a polymerizable unsaturated group; and  
 (B) a macromolecular compound including, at a side chain thereof,  
 a structure represented by the following general formula (II):



wherein X represents a hydrogen atom, a monovalent organic group, a hydroxyl group, a urethane group, a urea group, a halogen atom, an amino group, an amide group, a sulfonyl group or a sulfonate group, Y represents a divalent organic connecting group, n denotes 0 or 1, Z<sup>-</sup> represents COCOO<sup>-</sup>, COO<sup>-</sup>, SO<sub>3</sub><sup>-</sup> or SO<sub>2</sub>-N<sup>-</sup>-R where R represents a monovalent organic group and M<sup>+</sup> represents an onium cation.

10. A planographic printing plate precursor according to claim 9, wherein the polymerizable composition further comprises (C) a compound having a maximum absorption wavelength at 700 to 1200 nm.

11. A polymerizable composition comprising:

- (1) a compound for generating a radical using light or heat;
- (2) a polymerizable compound; and
- (3) an infrared absorber, wherein;

the molecular weight of the compound (1) generating a radical is at least 1,000 and no more than 50,000.

12. A polymerizable composition according to claim 11, wherein the radical generating compound (1) comprises a macromolecular compound, which includes, at a side chain thereof, a structure represented by the following general formula (I),

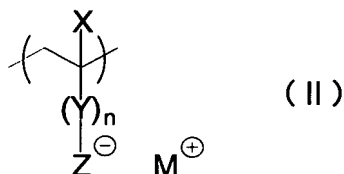


General formula (I)

wherein  $Z^-$  represents  $\text{COCOO}^-$ ,  $\text{COO}^-$ ,  $\text{SO}_3^-$  or  $\text{SO}_2\text{-N}^-\text{-R}$  where R represents a monovalent organic group and  $M^+$  represents an onium cation.

13. A polymerizable composition according to claim 12, wherein the macromolecular compound, which includes a structure represented by the general formula (I), has a structural unit

represented by the following general formula (II):



wherein X represents a hydrogen atom, a monovalent organic group, a hydroxyl group, a urethane group, a urea group, a halogen atom, an amino group, an amide group, a sulfonyl group or a sulfonate group, Y represents a divalent organic connecting group, n denotes 0 or 1, Z<sup>-</sup> represents COCOO<sup>-</sup>, COO<sup>-</sup>, SO<sub>3</sub><sup>-</sup> or SO<sub>2</sub>-N<sup>-</sup>-R where R represents a monovalent organic group and M<sup>+</sup> represents an onium cation.

14. A polymerizable composition according to claim 12, wherein Z<sup>-</sup> of the macromolecular compound (B) represents COCOO<sup>-</sup>.

15. A polymerizable composition according to claim 12, wherein M<sup>+</sup> of the macromolecular compound is selected from sulfonium, iodonium, diazonium and azinium.

16. A polymerizable composition according to claim 11, wherein the amount of the component (I) in the polymerizable composition is in a range of 0.5 to 50% by mass as a solid.

17. A planographic printing plate precursor comprising:

a support; and  
a recording layer disposed on the support, wherein;  
the recording layer includes the polymerizable  
composition of claim 11.

18. A planographic printing plate precursor according to claim 17, wherein the polymerizable composition further includes (C) a compound having a maximum absorption wavelength at 700 to 1200 nm.

19. A macromolecular compound including, at a side chain thereof, a structure represented by the following general formula (III):

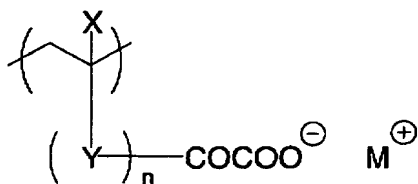
General formula (III)



wherein  $\text{M}^+$  represents an onium cation selected from sulfonium, iodonium, diazonium and azinium.

20. A macromolecular compound according to claim 19, wherein the macromolecular compound including, at a side chain thereof, a structure represented by the general formula (III) comprises a structural unit represented by the following general formula (IV).

General formula (IV)



wherein X represents a hydrogen atom, a monovalent organic group, a hydroxyl group, a urethane group, a urea group, a halogen atom, an amino group, an amide group, a sulfonyl group or a sulfonate group, Y represents a divalent organic connecting group, n denotes 0 or 1 and M<sup>+</sup> represents an onium cation selected from sulfonium, iodonium, diazonium and azinium.